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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/838,890	04/20/2001	Kai Eck	DE 000066	1656

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EXAMINER

EDWARDS, PATRICK L

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 05/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/838,890

Applicant(s)

ECK ET AL.

Examiner

Patrick L. Edwards

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03-11-2005 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-8 and 10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Amended claims 1 and 10 recite "a processing unit (2) for correcting the defective pixels identified in the defect table by taking as a sole input the defect table." This language is inconsistent with the originally filed disclosure which shows that the processing unit (2) has not one, but two inputs. Figure 1 of the disclosure shows that the processing unit takes one input from the imaging unit (1) and another input from the connection (25). The input from the connection (25) consists of "the LUT's, defect tables and correction tables or offset correction rules." The limitation of a 'sole input' to the processing unit is undisclosed and inconsistent with the originally filed disclosure. Thus, the claim contains subject matter not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 2-8 are rejected because of their dependency on claim 1.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-8 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The metes and bounds of amended claims 1 and 10 are unclear as a result of the ambiguity associated with the claimed limitation of a the processing unit taking a "sole input." This limitation is inconsistent with the

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remaining limitations of the claim and also with the disclosure. The limitation in question requires that a defect table is the sole input to the processing unit. If this is true, then how does the image data get corrected? If the image data is not allowed to be input into the processing unit, then how can the processing unit correct the image data? If the image data isn't input to the processing unit, then where does it go? These questions--and other related questions occurring as a result of the ambiguous claim limitation--illustrate the 112(2) problem with the claim.

The claim ambiguity is such that the examiner is unable to make a reasonable interpretation on which a prior art rejection could be based. As a result, the previously set forth rejection will simply be repeated below. If applicant amends the claims such that they can be reasonably interpreted, then a new prior art rejection will be applied to those claims.

Claims 2-8 are rejected because of their dependency on an indefinite claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Schreiner (U.S. Patent No. 5,617,461 A).

As applied to claim 1, Schreiner discloses an X-ray examination apparatus which includes an X-ray source (see Fig. 1: Reference numeral 1 referring to an X-ray tube that produces an X-ray beam.), an X-ray detector including sensor elements for converting X-ray in electrical charges (see Fig. 1: Reference numeral 5 referring to an X-ray image converter) and a processing unit for the correction of image data and a defect detection unit for the detection of image defects (see Fig. 1: Reference numeral 6 referring to a digital imaging system. This system contains both a processing unit and a defect detection unit.) that can be detected on the basis of image parameters that can be extracted from image data arising during clinical examinations and is suitable to adapt, in dependence on the detected image defects, the processing parameters used in the processing unit (see column 3, lines 49-56: The reference describes that a defect image is produced that identifies the defective image points that need to be corrected by the processing unit. These defective image points are the processing parameters.), characterized in that for the detection of image defects caused by defective sensor elements the defect detection unit includes a filter unit for filtering the image data (see column 4, lines 17-20: The reference describes that images are filtered by a median filter.), and a unit for averaging the filtered image data (see column 4, lines 30-36: The reference describes that a histogram (i.e. an average) is determined for each filter value.), and a comparison unit for comparing the filtered and averaged image data with a threshold value (see column 4, lines 36-38: The reference describes that the defective image points are determined by determining which values of the histogram (i.e. average image data) lie outside a

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predetermined region (i.e. a threshold).) in order to form a defect table identifying defective pixels in the image data (see Fig. 3 and column 4, lines 36-41: The reference describes that a defect image (i.e. table) is formed. This defect image identified defective pixels in the image data.), and a processing unit (2) for correcting the defective pixels identified in the defect table by means of a correction table (20) to obtain corrected pixel values and applying the corrected pixel values to the image data from the X-ray detector (13) (see Fig. 2 and column 3, lines 54-56: The reference describes a correction 15 (i.e. processing unit) that corrects the defective pixels in the defect image (i.e. defect table) by means of a linear interpolation of adjacent image points (i.e. correction table) to obtain corrected pixel values and applying these pixel values to the original image data 16.).

As applied to claim 2, Schreiner discloses that the defect detection unit is arranged to adapt status parameters of the X-ray examination apparatus (see column 3, lines 49-51: The reference describes that the defect determination procedure determines the defective image points (i.e. adapts status parameters) in the X-ray detector (i.e. examination apparatus).).

As applied to claim 3, Schreiner discloses that continuous detection takes place (see column 3, lines 57-64: The reference describes that a "bright image" is a series of images with uniform exposure (i.e. continuous detection).).

As applied to claim 4, Schreiner discloses that the filter unit includes a ranking filter for filtering the image data, an inverter for inverting image data, and a summing unit for summing the filtered and inverted image data, there also being provided a unit for forming the absolute values of the summed image data (see column 4, lines 16-29: This claim describes an unsharp masking of the image data. This type of unsharp mask is described in the reference. The reference describes the use of a median filter (i.e. a ranking filter) to filter the image data. This filtered image data is subtracted from the original image data. This is equivalent to inverting the image data and summing the filtered and inverted image data. An absolute value of subtracted image data is also obtained.).

As applied to claim 5, Schreiner discloses that the defect detection unit is arranged to apply a corrected defect table to the processing unit in the case of detection of defective sensor elements (see column 3, lines 49-54: The reference describes that the defect image (i.e. table) produced by the defect determination procedure is used to correct the original X-ray image if defective sensor elements are detected.).

As applied to claim 6, Schreiner discloses that the threshold value is predetermined (see column 4, lines 33-36: The reference describes that the core of the histogram (i.e. threshold) is determined. Therefore, this value is predetermined.).

As applied to claim 7, Schreiner discloses that the ranking filters have variable kernels (see column 5, lines 6-18: The reference describes that the median filter (i.e. ranking filter) can have a variable kernel.).

As applied to claim 8, which merely calls for the method performed by the apparatus of claim 1, Schreiner discloses such a method since the reference discloses the apparatus for performing the method.

As applied to claim 10, which merely calls for a computer program for performing the functions of the apparatus described in claim 1, Schreiner discloses such a computer program since all of the processing performed in Schreiner is performed by the digital imaging system 6 (i.e. a computer).

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick L. Edwards whose telephone number is (571) 272-7390. The examiner can normally be reached on 8:30am - 5:00pm. M-F.

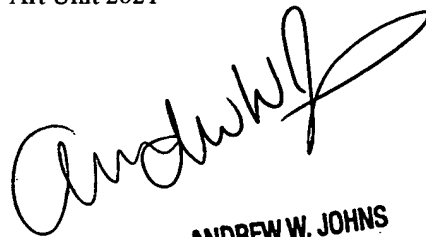
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick L. Edwards

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ANDREW W. JOHNS
PRIMARY EXAMINER